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PART II

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■

BUILDERS PAPER AND BOARD MANUFACTURING POINT SOURCE CATEGORY

Effluent Limitations Guidelines

ENVIRONMENTAL PROTECTION AGENCY

[40 CFR Part 431]

EFFLUENT LIMITATIONS GUIDELINES

Builders Paper and Board Manufacturing Point Source Category

Notice is hereby given that effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources set forth in tentative form below are proposed by the Environmental Protection Agency (EPA) for the builders paper and roofing felt subcategory (Subpart A) of the builders paper and board manufacturing category of point sources pursuant to sections 301, 304(b) and (c), 306(b) and 307(c) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251, 1311, 1314(b) and (c), 1316(b) and 1317(c); 86 Stat. 816 et seq.; Pub. L. 92–500) (the Act).

(a) *Legal authority*—(1) *Existing point sources.* Section 301(b) of the Act requires the achievement by not later than July 1, 1977, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of the best practicable control technology currently available as defined by the Administrator pursuant to section 304(b) of the Act. Section 301(b) also requires the achievement by not later than July 1, 1983, of effluent limitations for point sources, other than publicly owned treatment works, which require the application of best available technology economically achievable which will result in reasonable further progress toward the national goal of eliminating the discharge of all pollutants, as determined in accordance with regulations issued by the Administrator pursuant to section 304(b) of the Act.

Section 304(b) of the Act requires the Administrator to publish regulations providing guidelines for effluent limitations setting forth the degree of effluent reduction attainable through the application of the best practicable control technology currently available and the degree of effluent reduction attainable through the application of the best control measures and practices achievable including treatment techniques, process and procedure innovations, operating methods and other alternatives. The regulations proposed herein set forth effluent limitations guidelines, pursuant to section 304(b) of the Act, for the builders paper and roofing felt subcategory (Subpart A) of the builders paper and roofing felt segment of the builders paper and board manufacturing industry category.

(2) *New sources.* Section 306 of the Act requires the achievement by new sources of a Federal standard of performance providing for the control of the discharge of pollutants which reflects the greatest degree of effluent reduction which the Administrator determines to be achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants.

Section 306(b)(1)(B) of the Act requires the Administrator to propose regulations establishing Federal standards of performance for categories of new sources included in a list published pursuant to section 306(b)(1)(A) of the Act. The Administrator published in the FEDERAL REGISTER of January 16, 1973 (38 FR 1624), a list of 27 source categories, including the builders paper and board manufacturing category. The regulations proposed herein set forth the standards of performance applicable to new sources for the builders paper and roofing felt subcategory (Subpart A) of the builders paper and roofing felt segment of the builders paper and board manufacturing industry category.

Section 307(c) of the Act requires the Administrator to promulgate pretreatment standards for new sources at the same time that standards of performance for new sources are promulgated pursuant to section 306. Section 431.15 proposed below, provides pretreatment standards for new sources within the builders paper and roofing felt subcategory (Subpart A) of the builders paper and board manufacturing category.

Section 304(c) of the Act requires the Administrator to issue to the States and appropriate water pollution control agencies information on the processes, procedures or operating methods which result in the elimination or reduction of the discharge of pollutants to implement standards of performance under section 306 of the Act. The Development Document referred to below provides, pursuant to section 304(c) of the Act, information on such processes, procedures or operating methods.

(b) Summary and basis of proposed effluent limitations guidelines for existing sources and standards of performance and pretreatment standards for new sources.

(1) *General methodology.* The effluent limitations guidelines and standards of performance proposed herein were developed in the following manner. The point source category was first studied for the purpose of determining whether separate limitations and standards are appropriate for different segments within the category. This analysis included a determination of whether differences in raw material used, product produced, manufacturing process employed, age, size, waste water constituents and other factors require development of separate limitations and standards for different segments of the point source category. The raw waste characteristics for each such segment were then identified. This included an analysis of (1) the source, flow and volume of water used in the process employed and the sources of waste and waste waters in the operation, and (2) the constituents of all waste waters. The constituents of the waste waters which should be subject to effluent limitations guidelines and standards of performance were identified.

The control and treatment technologies existing within each segment were identified. This included an identification of each distinct control and treatment technology, including both in-plant and end-of-process technologies, which are existent or capable of being designed for each segment. It also included an identification, in terms of the amount of constituents and the chemical, physical, and biological characteristics of pollutants, of the effluent level resulting from the application of each of the technologies. The problems, limitations and reliability of each treatment and control technology were also identified. In addition, the non-water quality environmental impacts, such as the effects of the application of such technologies upon other pollution problems, including air, solid waste, noise and radiation, were identified. The energy requirements of each control and treatment technology were determined as well as the cost of the application of such technologies.

The information, as outlined above, was then evaluated in order to determine what levels of technology constitute the "best practicable control technology currently available", the "best available technology economically achievable" and the "best available demonstrated control technology, processes, operating methods, or other alternatives." In identifying such technologies, various factors were considered. These included the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements) and other factors.

The data upon which the above analysis was performed included EPA permit applications, EPA sampling and inspections, consultant reports, and industry submissions.

The pretreatment standards proposed herein are intended to be complementary to the pretreatment standards proposed for existing sources under 40 CFR Part 128. The bases for such standards are set forth in the FEDERAL REGISTER of July 19, 1973, 38 FR 19236. The provisions of Part 128 are equally applicable to sources which would constitute "new sources" under section 306 if they were to discharge pollutants directly to navigable waters, except for § 128.133. That section provides a pretreatment standard for "incompatible pollutants" which requires application of the "best practicable control technology currently available," subject to an adjustment for amounts of pollutants removed by the publicly owned treatment works. Since the pretreatment standards proposed herein apply to new sources, § 431.15 below, amends § 128.133 to require application of the standard of performance for new sources rather than the "best practicable" standard applicable to existing sources under sections 301 and 304(b) of the Act.

(2) Summary of conclusions with respect to the builders paper and roofing

felt subcategory (Subpart A) of the builders paper and board manufacturing category of point sources.

(i) *Categorization.* For the purpose of studying waste treatment and effluent limitations, the builders paper and roofing felt segment of the builders paper and board manufacturing category was considered as one discrete subcategory, primarily based on a consideration of the raw materials utilized, production processes employed, products produced, size and age of mills, waste water characteristics and treatability, and geographical location as outlined in the Development Document for the builders paper and roofing felt segment of the builders paper and board manufacturing category of point sources.

(1) Subpart A. Builders Paper and Roofing Felt Subcategory: This subcategory includes mills which produce the heavy papers used in the construction industry from cellulose fibers derived from waste paper, wood flour and sawdust, wood chips, and rags, without bleaching or chemical pulping.

Builders papers are generally characterized as saturating papers, flooring paper, and deadening papers which are used in the construction and automotive industries. They differ from unstructured roofing felts only in thickness and possible chemical additives added to the process in order to achieve a specific property, i.e., strength, density, wet strength, water repellent capability, or similar physical qualities.

The function of dry roofing felt is to provide a strong, highly absorbent material as support and backing for the bituminous coatings necessary for the waterproofing characteristics essential to the finished product.

(ii) *Waste characteristics.* The significant pollutant parameters in waste waters resulting from the builders paper and roofing felt subcategory, include five-day biochemical oxygen demand (BOD5), total suspended non-filterable solids (TSS), and pH.

Effluent limitation guidelines and standards of performance are established below to control each of the above pollutants. No limitations have been established for several other waste water pollutants which are considered to be of lesser importance because (a) available data has indicated these pollutants are normally removed when BOD5 or TSS are removed; (b) they occur in insignificant quantities; or (c) technology is not available to control the pollutant discharges.

(iii) *Origin of waste water pollutants in the builders paper and board manufacturing category.* Builders paper and roofing felt subcategory: Waste water pollutants result primarily from the stock preparation and board manufacturing processes. Losses of fibers and other raw materials occurs in both the "white water" and stock cleaning rejects which are continuously discharged. In addition to these continuous discharges, losses also occur when the unit operations are periodically cleaned. These cleanups produce surges of both BOD5 and suspended solids. An additional waste water source is obtained if water is used for cooling or quenching the coating on roofing felts and mica, talc or other solids may result. BOD5 in such quenching waste waters is of very low or nil levels.

(iv) *Treatment and control technology.* In-plant procedures to control pollution include strict management control over housekeeping and water use practices, minimization of the intake of water by re-use and recirculation of waste waters.

"End-of-process" waste water treatment processes include preliminary screening, primary sedimentation, biological treatment, and some physical-chemical treatment.

Solid waste control should be considered. Solid residue and sludge are potential problems because of the need for periodic disposal. Solid waste must be handled properly to assure that no landfill or associated problems develop.

Waste water treatment and control technologies have been studied for the subcategory of the industry to determine what is (a) the best practicable control technology currently available; (b) the best available technology economically achievable; and (c) the best demonstrated control technology, processes, operating methods or other alternatives.

Best practicable control technology currently available for the subcategory includes one or two stage biological treatment.

Biological treatment is presently employed by less than ten percent of the mills within the builders paper and roofing felt subcategory. Approximately 50 percent of the mills are using municipal treatment systems with an additional 25 percent of the mills in the subcategory having access to municipal treatment systems. Activated sludge and aerated stabilization basins are the two most common biological treatment systems presently in use by mills within this subcategory.

Reduction of pollutant parameters levels by either one- or two-stage biological treatment can achieve the best practicable control technology currently available effluent limitations guidelines. A specific level of effluent quality can generally be achieved by either one- or two-stage biological treatment depending upon the design and operation of the treatment system. Two-stage biological treatment includes systems with two biological treatment units operated in series such as an activated sludge plant followed by an aerated stabilization basin.

Best available control technology economically achievable for all subcategories includes two-stage biological treatment and mixed media filtration with, if necessary, chemical addition and coagulation.

Treatment required to achieve the best available demonstrated control technology, processes operating methods or other alternatives for new sources is the same as the best available control technology economically achievable.

(v) *Economic impact analysis.* A significant portion (approximately 75 percent) of the industry is using or has access to municipal treatment systems and thus will not be impacted by these guidelines.

The investment cost (August 1971 prices) of meeting the 1977 level of effluent reduction by the use of biological treatment systems for a model mill within the subcategory is estimated to be $0.92 million with increases in product prices of approximately five percent.

The incremental investment cost (August 1971 prices) of meeting the 1983 level of effluent reduction by the use of biological and physical-chemical treatment systems for a model mill within the subcategory is estimated to be $0.55 million with increases in product prices of approximately 3.5 percent;

The total investment cost (August 1971 prices) for new mills to meet the new source performance standards for a model mill within the subcategory is estimated to be $0.73 million.

Non-water quality impacts of the pollution control systems were analyzed and found to be of little consequence. Energy requirements of the industry are relatively low: power required to operate the internal controls and the mechanically aerated biological systems will increase consumption by considerably less than 10.0 percent. Solid wastes from treatment sludges and some odor from treatment systems are encountered, but no substantial impact can be identified.

It should be noted that a precise study of economic impact is difficult due to numerous other economic forces at work within an industry, and because of the great variability experienced from plant to plant in such factors as pollution control costs, profitability, and return on investment. In a study of economic impact such as this, it is difficult to deal with these factors on an individual plant basis.

It is not expected that any significant economic impact would result from imposing the effluent limitations requirements prior to discharge of process waste water pollutants to navigable waters on the covered segments of this category by 1977 (best practicable control technology for most industry segments). Because of this conclusion, the proposed guidelines for 1977, 1983 and new sources are economically achievable. The small price increases projected will probably be fully passed on to the consuming public.

The report entitled "Development Document for Proposed Effluent Limitations Guidelines and New Source Performance Standards for the Builders Paper and Roofing Felt segment of the Builders Paper and Board Manufacturing Point Source Category" details the analysis undertaken in support of the regulations being proposed herein and is available for inspection in the EPA Information Center, Room 227, West Tower, Waterside Mall, Washington, D.C., at all EPA regional offices, and at

State water pollution control offices. A supplementary analysis prepared for EPA of the possible economic effects of the proposed regulations is also available for inspection at these locations. Copies of both of these documents are being sent to persons or institutions affected by the proposed regulations, or who have placed themselves on a mailing list for this purpose (see EPA's Advance Notice of Public Review Procedures, 38 FR 21202, August 6, 1973). An additional limited number of copies of both reports are available. Persons wishing to obtain a copy may write the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman.

(c) *Summary of public participation.* Prior to this publication, the agencies and groups listed below were consulted and given an opportunity to participate in the development of effluent limitations guidelines and standards proposed for the builders paper and board manufacturing category. All participating agencies have been informed of project developments. An initial draft of the Development Document was sent to all participants and comments were solicited on that report. The following are the principal agencies and groups consulted: (1) Effluent Standards and Water Quality Information Advisory Committee (established under Section 515 of the Act); (2) All State and U.S. Territory Pollution Control Agencies; (3) Technical Association of the Pulp and Paper Industry; (4) National Council of the Paper Industry for Air and Stream Improvement, Inc.; (5) National Forest Products Association; (6) American Paper Institute; (7) U.S. Dept. of the Treasury; (8) Government of Guam, and Government of Samoa; Trust Territories of the Pacific Islands; (9) Puerto Rico; (10) The Conservation Foundation; (11) American Society of Mechanical Engineers; (12) Hudson River Sloop Restoration, Inc.; (13) Conservation Foundation; (14) Businessmen for the Public Interest; (15) Environmental Defense Fund, Inc.; (16) Natural Resources Defense Council; (17) American Social of Civil Engineers; (18) National Wildlife Federation; (19) Water Pollution Control Federation; (20) Ohio River Valley Sanitation Commission; (21) New England Interstate Water Pollution Control Commission; (22) Delaware River Basin Commission; (23) U.S. Dept. of Health, Education, and Welfare; (24) U.S. Dept. of Commerce; (25) U.S. Dept. of Agriculture; (26) Water Resources Council; and (27) U.S. Dept. of the Interior.

The following organizations responded with comments: U.S. Dept. of the Interior; State of Michigan; State of Illinois; State of California; U.S. Water Resources Council; State of Georgia; and State of Texas.

The comments were highly variable, ranging from full approval to rejection. It must be clearly understood that the treatment technologies used to develop the effluent limitations are alternative systems that have operated satisfactorily.

The primary issues raised in the development of the proposed effluent limitations guidelines and standards of performance and the treatment of these issues herein are as follows:

(1) Some comments were to the effect that the limitations were too stringent and not substantiated by data used in the study. Furthermore, the criticism was made that the sampling program was inadequate and unable to quantify the variability of waste loads. As explained in the Development Document, the degree of effluent reduction required by the applicable limitations currently is being attained by plants in all subcategories. Additionally, established alternative in-plant control and waste treatment procedures are readily available for application by the industry. As also explained in the Development Document, the sampling program was used to supplement and confirm data supplied by the industries (or other sources).

(2) A number of commentors took the position that the limitations were not stringent enough and were developed from only a fraction of the industry discharging to waterways. Limitations required by the implementation of best practicable control technology currently available are less stringent than the limitations for best available control technology economically achievable because the total cost of application of the latter technologies under the time limitations is too large in relation to the effluent reduction benefits to be achieved from such application. A prohibition of discharges to navigable waterways has not been required because technologies of complete water reuse have not been demonstrated.

(3) The criticism was made that the performances of the biological systems used to develop the limitations were based on optimum performance, and that effects of cold weather upon biological treatment were not considered. In most cases the performance represents average results from a full year's operation. The effects of cold weather upon biological treatment efficiencies have been considered, and an allocation has been allowed for mills operating in cold weather. Unfortunately, a large amount of data is lacking, and additional data on treatment system operations during cold weather is desired.

(4) Many commentors criticized the suspended solids guidelines as being too stringent in that biological solids generated in biological treatment of builders paper and roofing felt mill effluents do not flocculate and settle out resulting in relatively high suspended solids in final effluents. Many commentors from industry provided data on suspended solids levels in final effluents and the data was incorporated in revised suspended solids guidelines.

Interested persons may participate in this rulemaking by submitting written comments in triplicate to the EPA Information Center, Environmental Protection Agency, Washington, D.C. 20460, Attention: Mr. Philip B. Wisman. Comments on all aspects of the proposed regulations are solicited. Comments which criticize the adequacy of available data, or which provide additional data, should indicate why consideration of further data is essential to the development of the regulations. In the event comments address the approach taken by the Agency in establishing an effluent limitations guideline or standard of performance, EPA solicits suggestions as to what alternative approach should be taken and why and how this alternative better satisfies the detailed requirements of sections 301, 304(b), 306 and 307 of the Act.

A copy of all public comments will be available for inspection and copying at the EPA Information Center, Room 227, West Tower, Waterside Mall, 401 M Street, S.W., Washington, D.C. A copy of preliminary draft contractor reports, the Development Document and economic study referred to above, and certain supplementary materials supporting the study of the industry concerned will also be maintained at this location for public review and copying. The EPA information regulation, 40 CFR Part 2, provides that a reasonable fee may be charged for copying.

All comments received on or before February 13, 1973 will be considered. Steps previously taken by the Environmental Protection Agency to facilitate public response within this time period are outlined in the advance notice concerning public review procedures published on August 6, 1973 (38 FR 21202).

Dated: December 28, 1973.

JOHN QUARLES,
Acting Administrator.

PART 431—EFFLUENT LIMITATIONS GUIDELINES FOR EXISTING SOURCES AND STANDARDS OF PERFORMANCE AND PRETREATMENT STANDARDS FOR NEW SOURCES FOR THE BUILDERS PAPER AND BOARD MANUFACTURING POINT SOURCE CATEGORY

Subpart A—Builders Paper and Roofing Felt Subcategory

Sec.

431.10 Applicability; description of the builders paper and roofing felt subcategory.
431.11 Specialized definitions.
431.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
431.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.
431.14 Standards of performance for new sources.
431.15 Pretreatment standards for new sources.

Subpart A—Builders Paper and Roofing Felt Subcategory

§ 431.10 Applicability; description of the builders paper and roofing felt subcategory.

The provisions of this subpart are applicable to the discharges resulting from

the production of the heavy papers used in the construction industry from cellulose fibers derived from waste paper, wood flour and sawdust, wood chips, and rags without bleaching or chemical pulping.

§ 431.11 Specialized definitions.

For the purpose of this subpart:

(a) the following abbreviations shall have the following meanings: (1) "BOD5" shall mean five-day biochemical oxygen demand; (2) "TSS" shall mean total suspended nonfilterable solids; (3) "kg" shall mean kilogram(s); (4) "kkg" shall mean 1,000 kilograms; and (5) "lb" shall mean pound(s).

(b) Total suspended non-filterable solids (TSS) shall mean TSS as measured by the technique utilizing glass fiber filter disks as specified in *Standard Methods for the Examination of Water and Wastewater* (13th Edition).

§ 431.12 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best practicable control technology currently available by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 3.75 kg/kkg of product (7.5 lb/ton). Maximum average of daily values for any period of thirty consecutive days 2.5 kg/kkg of product (5.0 lb/ton).
TSS	Maximum for any one day 3.9 kg/kkg of product (7.8 lb/ton). Maximum average of daily values for any period of thirty consecutive days 2.5 kg/kkg of product (5.0 lb/ton).
pH	Within the range of 6.0 to 9.0.

Additional allocations equal to the above guidelines (excluding pH), are allowed during periods when the waste water temperature within the treatment system is 2°C (35°F) or lower. If 2°C (35°F) is the maximum temperature which occurs in the waste water within the treatment system for one day or for 30 consecutive days, the allocation may be applied to the daily maximum and 30 day maximum guidelines, respectively.

§ 431.13 Effluent limitations guidelines representing the degree of effluent reduction attainable by the application of the best available technology economically achievable.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged after application of the best available technology economically achievable by a point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 1.4 kg/kkg of product (2.8 lb/ton). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (2.0 lb/ton).
TSS	Maximum for any one day 1.55 kg/kkg of product (3.1 lb/ton). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (2.0 lb/ton).
pH	Within the range of 6.0 to 9.0.

§ 431.14 Standards of performance for new sources.

The following limitations constitute the quantity or quality of pollutants or pollutant properties which may be discharged reflecting the greatest degree of effluent reduction achievable through application of the best available demonstrated control technology, processes, operating methods, or other alternatives, including, where practicable, a standard permitting no discharge of pollutants by a new point source subject to the provisions of this subpart:

Effluent characteristic	*Effluent limitation*
BOD5	Maximum for any one day 1.4 kg/kkg of product (2.8 lb/ton). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (2.0 lb/ton).
TSS	Maximum for any one day 1.55 kg/kkg of product (3.1 lb/ton). Maximum average of daily values for any period of thirty consecutive days 1.0 kg/kkg of product (2.0 lb/ton).
pH	Within the range of 6.0 to 9.0.

§ 431.15 Pretreatment standards for new sources.

The pretreatment standards under section 307(c) of the Act, for a source within the builders paper and roofing felt subcategory, which is an industrial user of a publicly owned treatment works (and which would be a new source subject to section 306 of the Act, if it were to discharge pollutants to navigable waters), shall be the standard set forth in Part 128 of this chapter, except that for the purposes of this section, § 128.133 of this chapter, shall be amended to read as follows: "In addition to the prohibitions set forth in § 128.131 of this chapter, the pretreatment standard for incompatible pollutants introduced into a publicly owned treatment works by a major contributing industry shall be the standard of performance for new sources specified in § 431.14: *Provided*, That, if the publicly owned treatment works which receives the pollutants is committed, in its NPDES permit, to remove a specified percentage of any incompatible pollutant, the pretreatment standard applicable to users of such treatment works shall be correspondingly reduced for that pollutant."

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